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Second performance report on the programme budget for the biennium 2004-2005

Report of the Secretary-General*

Addendum

Review of General Service staffing

A. Introduction

1. The Secretary-General indicated in his first performance report on the programme budget for the biennium 2004-2005 that, in view of the difficulties being experienced as a result of the suspension of recruitment for posts in the General Service and related categories, a report would be submitted to the General Assembly in the latter part of 2005 recommending, as appropriate, the lifting of the suspension for the remainder of the biennium (A/59/578, para. 42). In section VIII, paragraph 7, of its resolution 59/276, the General Assembly requested the Secretary-General to report comprehensively on the issue at the beginning of its sixtieth session. Accordingly, the report of the Secretary-General on the suspension of recruitment for posts in the General Service and related categories was issued in September (see A/60/363).

2. In reporting on the impact of the suspension of General Service recruitment, it was indicated that the Secretary-General had also initiated a review of General Service staffing and that the results were expected to be reported in the context of the second performance report (ibid., para. 15). As planned, the present addendum to the second performance report summarizes the results of the review.

* The report is being issued at the present time to reflect the latest data available.

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for the historical perspective because it best captured the introduction of the Internet, e-mail, websites and organization-wide databases such as the Integrated Management Information System (IMIS). There were also several major departmental restructurings between 1990 and 1995 that would have complicated the analysis.

9. In section D, the key factors affecting the staff ratios are described to add context and perspective to the comparative analyses and to provide guidance on where and how staff ratios are used appropriately. Background information on the application of technology in the workplace in general and, more specifically, at the Secretariat, is provided in section E. It is not a critique of the organization's technology programme but rather an effort to describe both the expectations and the reality. The impact of technology on the work of General Service staff and the possible implications for the human resources programme is reviewed in greater detail in section F.

10. General Assembly resolutions, recommendations of the Advisory Committee on Administrative and Budgetary Questions, strategic technology plans, current and past budgets and reports of the Office of Internal Oversight Services were reviewed for background and perspective on current issues and on actions already taken. Business and technology literature was reviewed for expert views on technology and productivity in general. Interviews were conducted with executive officers, technology specialists and division or unit chiefs to obtain anecdotal evidence and, where available, quantified measures of workloads, productivity gains and changes in General Service work over time. Management literature and related websites were researched for information on the use of staff ratios as industry benchmarks.

11. Based on the documentation review, interviews and the comparative analysis, conclusions were drawn about the current situation and about obstacles and opportunities for achieving the proper staffing balance.

C. Comparative analysis

12. Comparisons with other organizations or other departments can be useful indicators of anomalies and areas needing further review. In isolation, however, such comparisons are generally inconclusive; they tell us where the organization stands but not where it should be. Staffing comparisons in particular should be used judiciously with a full understanding of the factors that may affect them and of the dynamic nature of staffing. Two organizations may be similar only by accident.

13. Caution is advised in assessing the balance between support staff and professional staff because of the many variables involved and because what works for one organization or department may be wrong for another. A low General Service-to-Professional ratio might be a valid staffing measure for functions that are predominantly professional supported by a relatively small number of General Service staff in clerical and administrative positions, although even that assumption needs to be tested. On the other hand, a high ratio might be more appropriate for process-oriented administrative work. Such complexities and the factors behind the numbers are discussed in section D.

United Nations organizations

14. Comparisons between the Secretariat and other United Nations organizations are illustrated in table 1. The Secretariat is above the 0.99 average ratio for headquarters operations, but below the 1.53 average for total staff in all locations. CEB points out, however, that its basedata does not include contingency or extrabudgetary staff, which could alter the ratios considerably. The figures for headquarters operations are considered the most useful and relevant for the present review.

Table 1
Summary of General Service-to-Professional ratios for the largest organizations of the United Nations system[1]

			Total staff	
Organization	*Headquarters staff*	*Other offices and posted staff*	*2004*	*2005*
Secretariat	1.16	1.46	1.36	1.94
UNDP	0.66	2.84	2.13	3.31
UNHCR	0.76	3.13	2.25	2.47
UNICEF	0.65	2.23	1.84	2.57
ILO	1.15	1.67	1.42	1.53
FAO	1.03	2.45	1.44	1.72
WFP	0.72	1.62	1.27	1.89
UNESCO	1.10	1.34	1.18	1.42
WHO	0.93	1.75	1.38	1.82
IAEA	1.20	0.89	1.19	1.62
UNIDO	1.55	0.94	1.40	1.94
Average	**0.99**	**1.92**	**1.53**	**2.02**

Source: CEB personnel statistics as at 31 December 2004. Includes some peacekeeping staff, contingency staff not included.

15. The Secretariat is the United Nations entity with the largest number of headquarters-based staff — nearly 5,000 — and the broadest mandate and programme responsibilities. The other United Nations system organizations have headquarters staff ranging from 541 for the United Nations Industrial Development Organization (UNIDO) to over 2,000 for the International Atomic Energy Agency (IAEA) and the Food and Agriculture Organization of the United Nations (FAO). Despite differences in size, the comparator organizations are mostly self-contained, use the same or similar classification of posts for the General Service and Professional categories and have similar occupational groups and employment policies.

16. Even within the United Nations system, several variables would need to be analysed to get a more precise scoring of the Secretariat's relative position. Differences in mandates and scope of activities, labour markets, personnel policies and managerial flexibility, security requirements, condition of facilities and

opportunities for outsourcing could all have an impact on the numbers. The following are some examples:

- The Secretariat services both the General Assembly and the Economic and Social Council and would presumably have more staff devoted to support functions such as conference and meeting services, text-processing and printing
- The United Nations Development Programme (UNDP) and the United Nations Children's Fund (UNICEF), both with headquarters in New York, receive various support services from the Secretariat, such as in the areas of security, payroll and taxes, insurance, legal services, joint tribunals and the pension fund, which may lower their General Service-to-Professional ratios
- For UNDP, the administration of human resources, normally a function with a high General Service-to-Professional ratio, is now based in Copenhagen
- The Secretariat is the main interface of the United Nations with the media and general public and therefore has over 700 staff in the Department of Public Information, which includes support-heavy functions in such areas as media resources, website maintenance, information centre services and library services
- The CEB data for the Secretariat include peacekeeping posts not found elsewhere. Peacekeeping functions are weighted towards support and field staff
- Security requirements for the Secretariat in New York would presumably be greater owing to the events of September 2001; over 900 support staff in the Department of Safety and Security are included in the CEB data
- The Secretariat provides common support services to other United Nations organizations in such areas as human resources and pension management

17. Without a detailed analysis of these and other factors, it is difficult to draw conclusions about General Service-to-Professional ratios in the United Nations. In the end, the cost of the analysis would likely exceed the benefit. However, it might be worthwhile to examine more closely the differences between the Secretariat and its counterparts in New York, namely, UNICEF and UNDP. The latter have relatively low General Service-to-Professional ratios and there may be lessons to be learned from a further review of functions, policies and practices.

18. Regardless of the comparative standings, it is noteworthy that all organizations represented in table 1 have seen decreases in their General Service-to-Professional ratios since 1995. It is beyond the scope of the present report to determine the reasons for the declines, but it is reasonable to conclude that office technology applications were a positive contributor.

Survey results

19. Selected United Nations organizations or agencies were asked about the impact of technology on staffing levels and the work of General Service staff. They were also requested to provide headcounts for specific administrative functions. This was an informal survey without a detailed assessment of the comparability or

the facts that might explain differences in staff ratios. The following four organizations had responded as at the time of finalization of the review:

- *World Bank*. The World Bank imposed a freeze in 2000 on recruitment of staff in its Administrative and Client Service (ACS) category, primarily because of a mandate to convert a large number of non-regular staff (consultants) to the regular staff category, but also because it was determined that technology had changed the nature of the work and that fewer support staff should be needed. The freeze remains in effect. Staff ratios in the field differ from those at headquarters because generally lower wages in the field favour hiring in the ACS category. The nature of administrative functions has changed and consequently the World Bank no longer uses the title "Secretary". Taking dictation, typing long reports from handwritten drafts and other traditional secretarial functions have for the most part been eliminated in favour of research and data management. The World Bank also initiated "dollar budgeting" to replace post-based budgeting. The objective was to increase managerial flexibility. Data for the World Bank are not included in table 1 because the Bank's classification system includes a grade "E" that could include both General Service and Professional staff as defined in the United Nations system.

- *UNICEF*. Information technology has contributed to reductions in support staff in recent years, particularly at UNICEF headquarters. The traditional role of secretary has changed significantly, resulting in a gradual reduction in the number of secretarial posts. UNICEF uses staffing benchmarks for General Service and non-headquarters jobs, and individual offices sometimes propose using various staffing metrics to help determine staffing levels. Office typology is used to determine overall office size. Programme throughput, number of staff and support budget allocations are also used as reference points when analysing certain job categories. Moving from the General Service to the Professional category in UNICEF does not require passing a competitive examination, as is the case at the United Nations, partly because UNICEF is not obliged to recruit staff on a geographic basis. Staff in the General Service category may apply and compete for international posts. UNICEF has an established review process to assist in determining unsatisfactory performance that could lead to separation.

- *Asian Development Bank (ADB)*. The Asian Development Bank reports that advancements in technology have permitted the redeployment of resources to priority areas, but it has not sought to reduce the number of support staff. That strategy is expected to continue in the near future. There too the role of secretary has changed, with more professional staff doing their own word-processing and online processing. Electronic files are shared and communication is carried out by e-mail. ADB has reduced the number of secretaries and converted those posts to clerical posts. Workload measures (cost-accounting initiatives) have been implemented mainly in the area of operations. ADB does apply as a norm a professional-to-administrative staff ratio of 3.5 to 1. However, if a position is converted to a clerical position, the norm does not apply. In addition, the Bank's Office of Administrative Services is currently implementing a quality management methodology that utilizes facts and statistical analysis to measure and improve operational performance and the capability of business processes.

- *FAO.* FAO is currently involved in a General Service review project initiated in December 2000 because of the impact of technology over the past 10 years on the work of the General Service and the consequences of a reduction of over 600 General Service posts. The review was designed to align job titles and competencies with the realities of the work, streamline the post management system, provide transparency in job requirements, provide horizontal and vertical career paths and provide for the deployment of staff in a more flexible manner. In the first phase of the project, posts related to general administration, secretarial functions and typing, referred to as "office support", were targeted. Over 260 General Service staff provided data on job content, required skills and career needs. A draft was provided of the report on the first phase, entitled "Recommendations for job design and career development", which contains recommendations on consolidation of job titles, implementation of generic job profiles, retention of current grade level distinctions, recruitment through a temporary assistant pool, career development planning and lateral mobility. The underlying theme is the changes in work brought about by technology, particularly the introduction of the Oracle system in 1999. Office support staff are now undertaking administrative transactions and enquiries in automated systems such as Oracle, Atlas, the Data Warehouse and the Leave Management System. New roles have been developed for General Service staff. For example, the role of "divisional initiator" may be created with responsibility for initiating transactions in the various systems, but without approval authority.

Organizational standards

20. Research indicated limited use of support-to-professional staff ratios as industry-wide or organizational standards or benchmarks. There are generally too many variables involved to make such ratios useful, and many organizations do not for statistical purposes make a marked distinction between professional and non-professional staff equivalent to that of the United Nation's General Service and Professional categories. However, the literature does suggest considerable interest in staffing metrics, which seek to align staffing numbers with business objectives. For example, because of sizeable investments in information technology, staffing metrics are commonly used to measure performance and value to justify past investments and promote new ones. Some of the more common metrics include:

- Information technology spending as a percentage of revenue
- Information technology spending per employee as a measure of efficiency and effectiveness
- Ratio of information technology staff to total staff
- Number of users served by one information help desk

21. The human resources, accounts and procurement fields also apply staffing and other metrics, designed primarily to measure performance and improve processes as opposed to setting staffing levels. Still, measures of this type could be useful in any comprehensive review of staffing, particularly in the administrative departments and functions. They are generally collected for specific occupations or functional areas and published by professional associations or large private consulting companies that conduct surveys and charge a fee for the results.

Changes over time

22. As shown in table 2, most United Nations departments, offices and regional commissions have decreased their General Service-to-Professional ratios since the biennium 1994-1995. A full explanation of the trends and the factors behind them would require a detailed analysis of each department's mandate and programme changes, job and structural changes, process improvements, new hiring and turnover. Without historical data on output per process or per staff member, it cannot be said with certainty that the decreases in General Service-to-Professional ratios are attributable to new technology. However, the findings are consistent with the literature that suggests that the most significant productivity gains from technology investments probably started in 1995 with the introduction of e-mail, the Internet, websites and improved use of and access to databases. Executive officers and division chiefs interviewed for this review also credited technology with helping their departments and divisions keep up with increased workloads with the same or fewer General Service staff.

Table 2
Changes in General Service-to-Professional ratios since the biennium 1994-1995[1]

Department/office	*1994-1995*	*1998-1999*	*2002-2003*	*2006-2007*[a]	*Percentage change since 1995*
DGACM[b]	1.16	1.06	1.10	1.02	-12.0
DPA	0.75	0.77	0.78	0.81	+8.0
DDA	.	0.71	0.61	0.53	-25.4
OLA	0.79	0.78	0.73	0.68	-13.9
DESA	1.00	0.78	0.76	0.70	-30.0
OCHA	1.11	1.05	0.30	1.29	+16.2
DPI	1.72	1.71	1.55	1.51	-12.2
DM/OPPBA	1.35	1.30	1.27	1.19	-11.9
DM/OHRM	1.54	1.35	1.34	1.24	-19.4
DM/OCSS[c]	3.62	2.84	2.12	1.98	-45.3
OIOS	0.49	0.43	0.47	0.43	-12.3
DPKO	2.26	1.57	0.99	0.93	-58.8
Regional commissions					
ECA	1.64	1.62	1.54	1.60	-2.4
ESCAP	1.90	1.71	1.97	1.41	-25.7
ECE	0.75	0.69	0.66	0.63	-16.0
ECLAC	1.46	1.62	1.65	1.41	-3.4
ESCWA	1.78	1.49	1.69	1.31	-26.4
Funds and programmes					
UNCTAD	0.87	0.79	0.79	0.71	-18.4
UNEP	1.16	1.17	0.96	0.78	-32.8

Source: Compiled from combined regular and extrabudgetary sources.

[a] Proposed.

[b] Includes Trades and Crafts staff in order to include the printing function.

[c] Not including Security and Safety or Trades and Crafts staff.

23. Only the Department of Political Affairs and the Office for the Coordination of Humanitarian Affairs show increases in their General Service-to-Professional ratios since 1995. In the Department of Political Affairs, the number of regional divisions, which are weighted towards Professional staff, was reduced from six to four in 1998, thereby increasing the overall ratio. While the General Service-to-Professional ratio has increased, the number of General Service staff has actually decreased from 122 in 1994-1995 to 113 proposed for 2006-2007. The ratios of the Office for the Coordination of Humanitarian Affairs are skewed by extrabudgetary funding for humanitarian assistance. For posts funded from the regular budget only, the General Service-to-Professional ratio for the Office decreased from 0.71 in 1994-1995 to 0.35 proposed for 2006-2007, with a reduction of 13 General Service posts. The significant decrease in the General Service-to-Professional ratio for the Office of Central Support Services of the Department of Management is attributable mainly to the conversion of a number of IMIS-related general temporary assistance Professional positions and a reduction in the number of General Service staff funded by extrabudgetary resources from reimbursement for support for extrabudgetary administrative structures.

D. Factors affecting staff ratios

24. The comparisons presented above provide an incomplete and possibly misleading picture in the absence of an understanding of the factors that affect the ratios most directly, more specifically, mandates and programmes, duty station, functions, applications of technology, and policies and processes. Technology cuts across all the factors and is an underlying theme of this review; therefore it is addressed separately in the sections that follow.

Mandates and programmes

25. Overall mandates and programme responsibilities dictate the scope, type and amount of work assigned and therefore are a key factor in determining staffing needs. Departments responsible for administration and support of business processes would logically be expected to have a higher proportion of General Service staff. Conversely, mandates in policy development and programme management should produce lower overall General Service-to-Professional ratios because the work is predominantly professional in nature. These expectations generally hold true at the Secretariat, as shown in table 3.

Table 3
General Service-to-Professional ratios for Secretariat departments and offices, all locations[1]

Department/office	*General Service staff*	*Professional staff*	*Ratio*
DM/OCSS	301	131	2.30
DPI	385	224	1.72
DM/OHRM	126	78	1.62
DM/OPPBA	165	113	1.46
OCHA	107	76	1.41
DM/OUSG	40	30	1.33
EOSG	54	47	1.15
DGACM	491	556	0.88
DESA	231	263	0.88
DPA	92	107	0.86
DDA	26	31	0.84
OLA	65	87	0.75
DPKO	214	314	0.68
OIOS	40	106	0.38
Total	**2 431**	**2 293**	**Average: 1.06**

Source: Combined actual staffing as at 30 June 2005, funded by both regular budget and extrabudgetary sources (excludes peacekeeping mission staffing).

26. The Department of Economic and Social Affairs, the Department of Political Affairs, the Department for Disarmament Affairs, the Office of Legal Affairs and the Department of Peacekeeping Operations have very similar General Service-to-Professional ratios averaging 0.81 to 1. On the administrative and support side, the Office of Central Support Services, the Department of Public Information, the Office of Human Resources Management and the Office of Programme Planning, Budget and Accounts have similar ratios, averaging 1.78 to 1. At the high end, the Office of Central Support Services includes functions that are highly process-oriented, such as travel and transportation, facilities management, procurement, archives and records management and information technology. With the lowest General Service-to-Professional ratio, the Office of Internal Oversight Services mandates include audit, investigations and internal consulting services. This is predominantly professional, analytical work supported by staff engaged in word-processing, data management and basic administrative and secretarial functions. In the Department for General Assembly and Conference Management, the high number of staff involved in the production of documents and text-processing is offset by the number of Professional staff in the language services.

27. Departmental mandates are not static. Priorities change, and programmes are added or abolished. Some mandates may add to the Professional workload and some to the support workload. Even if new mandates do not alter the staffing balance,

they add to workloads and therefore may offset some of the productivity gains due to technology.

Duty station

28. The main effect of location on staffing is the labour market itself, that is, the cost and availability of qualified staff. General Service staff are usually hired in the local market. If relatively low wages are combined with a well-educated workforce, it may be viewed as cost-effective to hire high-level General Service staff instead of lower-level Professional staff. If both wages and skills are low, more General Service staff may be required. Duty stations with a more highly developed private sector offer more opportunities for outsourcing labour-intensive processes or services, such as security, maintenance and printing.

29. Even within the United Nations common system, different duty stations may have different levels of efficiency in managing business processes and their levels of investment and priorities for the application of technology may vary. In duty stations with numerous United Nations entities, such as Geneva, there would be more opportunities to exchange ideas on improving business practices, sharing services and increasing productivity.

30. The variances in General Service-to-Professional ratios among various duty stations are shown in table 4. Geneva-based organizations, including ECE, have lower ratios than the New York departments, whereas the regional commissions other than ECE have much higher ratios.

Table 4
Summary of General Service-to-Professional ratios by duty station[1]

Entity	*Location*	*Ratio*
Headquarters average	New York	1.03
UNEP	Nairobi	0.78
UNCTAD	Geneva	0.71
ECE	Geneva	0.63
UNODC	Vienna	0.96
ECA	Addis Ababa	1.60
ECLAC	Santiago	1.41
ESCWA	Beirut	1.31
ESCAP	Bangkok	1.41

[1] *Source*: Based on the proposed programme budget for 2006-2007 reflecting combined regular budget and extrabudgetary sources.

31. The higher ratios at the regional commissions were addressed previously in a report requested by the General Assembly (A/58/403). The main cause was that the regional commissions, with the exception of ECE, are self-contained and therefore provide a broader range of services than do the departments to which they were compared in New York and Geneva. ECE has a lower rate primarily because it receives common services from the United Nations Office at Geneva. Similarly,

UNCTAD, based in Geneva, has a lower ratio than the New York average in part because of the services provided by the United Nations Office at Geneva.

32. In relation to Geneva-based offices, the ratios for Headquarters in New York are affected by security requirements, the provision of common services and peacekeeping responsibilities. There may also be other more subtle differences in the labour market.

Functions and job categories

33. The principal determinant in the balance between support staff and professional staff is the nature of the work itself, that is, the functions and job categories represented in the organizational unit. The usefulness and validity of a General Service-to-Professional ratio varies with the function. The ratio is most applicable to functions that are predominantly professional in nature (e.g., policy planning, programme management, audit and evaluation). Professionals are supported directly or indirectly by staff in administration, research, data management and general clerical support. Staffing levels would be based first on the number of Professionals needed to carry out the mandate followed by a determination of the number of General Service staff required to support each Professional or each unit. On the surface, a low ratio would seem desirable, but two possibilities should be considered: (a) technology may permit support staff to take on some of the lower-level functions now assigned to Professional staff, thereby raising the ratio, and (b) it is not cost-effective for General Service staff to be reduced to the extent that Professional staff have to absorb a significant portion of General Service functions.

34. General Service-to-Professional ratios are not a good measure of staffing levels for transaction-oriented administrative work, such as text-processing, entitlement processing, help desk services, and payroll. A high ratio might in fact be a good thing, an indication that each Professional is able to supervise a large group of processors, producing a positive span-of-control measure. For these functions, a reduction in support staff might suggest a corresponding reduction in the number of supervisory staff and therefore staff ratios would remain relatively stable. Optimal staffing would be more appropriately based on measures of transactions per staff member rather than support staff per Professional.

35. Even within one office, for example the Office of Human Resources Management, different functions would properly have different staff ratios. The Operational Services Division has a much higher General Service-to-Professional ratio than the Human Resources Policy Service, as indicated in table 5. Clearly it is not possible to use a one-size-fits-all approach to the application of staffing ratios.

Table 5
Summary of General Service-to-Professional ratios for selected functions

Function	Number of staff		Ratio
	General Service	Professional	
Human resources — Operational Services Division	47	24	1.95
Human resources — Policy Service	10	14	0.71
Programme Planning and Budget Division	13	22	0.59
Accounts Division	69	38	1.82
Procurement Service	17	22	1.68
Information Technology Services Division	60	74	0.81
Public information — News and Media Division	81	65	1.25
Public information — Library	76	40	1.90

Source: ST/ADM/R.59.

Policies and processes

36. Staff rules and regulations may affect the ability of the Organization and its managers to achieve optimal staffing levels. For example, the lack of good mechanisms for dealing with poor performers may create inflated payrolls and an imbalance in staffing. This concern was raised by several executive officers and division chiefs and is one of the issues to be addressed in the context of the review of regulations and rules.

37. Also under review are complex entitlements that require cumbersome and labour-intensive processes for servicing staff. In its report of August 2003, the Office of Internal Oversight Services estimated that it costs the United Nations an estimated $1.9 million per annum to administer staff entitlements such as rental subsidies, education grants and dependency allowances (A/58/211).

38. In addition to recommending simplification of entitlements, the Office of Internal Oversight Services made recommendations for the simplification and streamlining of several key business processes, such as travel claims, staff entitlements and procurement applications. Again, these are labour-intensive processes, particularly for General Service staff, and their reform may offer potential for staffing reconfigurations.

E. Technology and productivity

39. One of the underlying assumptions regarding concerns about staffing levels is that advances in technology should by now have increased productivity and therefore permitted staffing reductions. However, the literature shows that for most organizations, outside of manufacturing, productivity gains have been slow to come and hard to measure. This section reports briefly on the experience in the marketplace in general and at the Secretariat.

Expectations versus reality

40. It is reasonably assumed in business and government that advancements in office technology will yield increased efficiency, productivity and, eventually, labour force reductions. Corporate boards and governing bodies expect a return on investment for considerable spending on computer hardware and software. But the literature describes a "productivity paradox" throughout the 1980s and much of the 1990s. The expected benefits of technology did not fully materialize — at least not in ways that were easily measured. In the United States, despite substantial investment in technology, white-collar productivity statistics remained stagnant during that period.

41. However, the situation started to change around 1995. Following the decline in technology prices, the widespread adoption of the Internet and e-mail and improved measurement and reporting on white-collar productivity, service organizations began to see a better "technology payoff". A report from MIT suggests that improvements made in information technology several years ago are just now realizing their greatest return.[2]

42. The literature identifies several reasons organizations did not initially realize the anticipated gains from technology investments:

- Wrong systems: purchase or development of the wrong system for the problem to be solved or failure to identify the problems in the first place
- Automation without re-engineering: failure to simplify, streamline or rationalize processes prior to automating them
- Lack of integration: inadequate integration of new systems because of failure to consider the impact on or of other units/departments
- Technology without skill enhancement: failure to measure skills and provide adequate training prior to the roll-out of new systems
- Expansion of work to meet the capabilities of technology: work is different and is done differently, but there is not necessarily less of it

43. The most common and costly error was the failure to re-engineer in advance of automating. Corporate executives report that productivity occurs only when re-engineering accompanies information technology investments. The industry standard for return on investment for projects related solely to information technology is about 6 per cent, whereas projects accompanied by business process re-engineering usually show a 20 per cent return on investment.

44. The literature also highlights the difficulty of translating the benefits of information technology into quantifiable measures of output. Intangibles such as better responsiveness to customers, improved quality, variety, timeliness and customization are not well measured in official productivity statistics.

Technology at the Secretariat

45. Reports from managers, technology specialists and the Office of Internal Oversight Services suggest that the introduction of technologies at the Secretariat faced some of the same obstacles described above. It was also suggested that the United Nations started from a low base in terms of the efficiency of business

processes and that the Organization has not been on the leading edge of technology innovation and applications.

46. It was commonly reported that there was not adequate re-engineering before some business processes were automated. Processes were not simplified, rationalized or streamlined prior to being automated. In a review of United Nations administrative processes in 2003, the Office of Internal Oversight Services found that the Secretariat's administrative environment was not fully leveraging the advantages of technology, nor was it applying modern process management practices adopted by other organizations. Many of the administrative processes were still manual, cumbersome, time-consuming, inefficient and costly to administer (see A/58/211). Human resources, procurement and travel-related processes were singled out as some of the most problematic.

47. A frequent comment was that technology may save time in one area but create more work in another; in other words, the work is expanding to meet the capabilities of technology. Another obstacle to productivity gains is a lack of skills needed to match the technology and take full advantage of its capabilities. A wide range of computer training is available at the Secretariat, but it is reported that staff do not necessarily take the training they need most. The performance management system should identify gaps in skills, but apparently the link between competencies and performance is not always identified.

Outlook

48. The United Nations has faced the same problems as other organizations in fully leveraging its applications of office technology. The promised increases in productivity have lagged behind the investments. Nevertheless, interviews with division chiefs indicate that technology has in fact had an impact by both qualitative and quantitative measurements. In the administrative departments alone, there has been an overall reduction of some 300 General Service staff since 1995, while at the same time mandates and programmes have increased. Substantive departments have also reduced or redeployed General Service staff. Another 90 reductions Organization-wide are proposed for the biennium 2006-2007. Nevertheless, there may still be room for further improvement.

49. Several actions and activities related to technology and an improvement in the processes it supports suggests the dynamic has changed and there is wider recognition of the need for better integration of technology and business processes. Prior to 2003, most investments in technology were decentralized and not necessarily supported by business cases. The Secretariat's first comprehensive information and communication technology strategy (A/57/620) was submitted to the General Assembly in November 2002. The strategy calls for development of a specific plan to improve efficiency through the application of information technology in the Secretariat and the action required to implement it. The proposals included in the strategy promise more effective decision-making, the provision of higher-quality services to governing bodies and Member States and facilitation of the sharing of institutional knowledge. It is noteworthy that while a reduction in support staff might be viewed as implicit in the promise of increased efficiency, the information technology strategy did not promise changes in staffing levels, rather, it suggested the possibility of redeployment of resources.

50. The technology strategy states that return on investment will be quantified through one of three criteria: (a) total economic impact, where possible; (b) qualitative return indicators such as service improvements, process streamlining and leveraging of past investments; and (c) opportunity costs — the cost of not implementing a technology programme.

51. In August 2005 an administrative instruction (ST/AI/2005/10) was issued that: (a) requires responsible officials to prepare a high-level business case for information and communication technology initiatives; and (b) sets out the responsibilities of information and communication technology committees and project review committees for the review of the high-level business cases. These actions are in part intended to ensure that information technology initiatives are integrated into a global programme.

52. Other positive indicators include the following:

- The Office of Human Resources Management has issued a request for proposals for an external consultant to conduct a business analysis of the need for automation in human resources management in conformity with United Nations information and communication technology standards.
- The Department of Political Affairs has undertaken a review of the work of its General Service staff in part to determine the impact of technology on the functions, number and distribution of staff.
- The Office of Programme Planning, Budget and Accounts has recently distributed a client service survey to all staff to get feedback on their handling of pay, taxes, insurance, allotments, budgets and other services.
- The Office of Internal Oversight Services has made recommendations for a time-bound plan for reducing duplication, complexity and bureaucracy in administrative processes and procedures.
- The Secretary-General, in response to the agreements reached at the 2005 World Summit (see resolution 60/1), has assigned a principal task manager for a review of existing regulations and rules with a view to creating a flexible business model.

53. All these activities have an impact on the work, number and deployment of staff, including General Service staff.

F. Impact of technology on the work of General Service staff

54. Technology has given support staff new tools and, in some cases, new processes. It has improved the quality of work and, in some cases, the response times. But it has also changed the work itself and the skills required to perform it. Job content has changed to accommodate the capabilities of new systems. Two questions are pertinent to this review: (a) How has technology changed the work of General Service staff? (b) What are the possible implications of those changes on staffing ratios and the career structure in general? A brief introduction to these issues is provided in the present report, but only a detailed analysis of each department and function, and perhaps each post, could answer these questions fully.

Current General Service workforce

55. The approximate headcount of General Service staff in various functional categories is provided in table 6, and the grouping of job titles under those functional categories is presented in the annex. Accurate headcounts are impeded by the large number of General Service job titles now in use. Generic job profiles, developed by the Office of Human Resources Management in 2002-2003, consolidated over 250 existing titles into fewer than 40 job titles, but the generic profiles have not been fully implemented. Staff hired after 2002 have been assigned generic job profile titles, but all other staff retain their old titles. The process of matching current staff to the most appropriate generic profile should be one of the first steps in any comprehensive analysis of General Service work and staffing levels.

Table 6
Summary of General Service staff by functional category

Functional category	*Regular budget*	*Extrabudgetary*	*Total*	*Percentage of total*
Secretarial and executive support[a]	610	489	1099	16.1
General administrative and office support[b]	514	428	942	13.8
Security and Safety[c]	624	207	831	12.2
Administrative Assistant	300	424	724	10.6
Language and documentation services	585	114	699	10.2
Information, media and public relations	331	146	477	7.0
Programme management	307	145	452	6.6
Information and communication technology	266	176	442	6.5
Financial management	187	211	398	5.8
Human resources management	151	126	277	4.1
Conference and meetings services	122	24	146	2.1
Trades and Crafts	88	56	144	2.1
Audio-visual, graphic, print technicians	83	46	129	1.9
Legal Assistant	21	17	38	0.6
Medical (Laboratory Technician, Nurse)	10	19	29	0.4
Total	**4 199**	**2 628**	**6 827**	**100**

Source: Based on an extract of IMIS as at 30 June 2005. Excludes Field Service staff as well as non-IMIS offices (ICJ, UNRWA) (see also annex).

[a] Includes staff with the titles Clerk-Typist, Secretary, Personal Assistant, Staff Assistant and Team Assistant.

[b] Includes 116 Drivers.

[c] Includes 316 Security and Safety posts in New York in levels S-1 to S-7.

56. Three of the largest generic job profile categories are particularly problematic: secretarial and executive support, general administrative and office support and administrative assistant. Together they represent over 40 per cent of all General Service staff and include most or all of the staff whose job content includes any portion of traditional support work, that is, responsibility for providing

administrative, clerical and secretarial support to a manager, group of professionals or a formal organizational unit. The impact of technology on support work is one of the most visible because virtually all professional staff have now taken on some of their own word-processing, data enquiries, scheduling and communication via e-mail. Managers, while accepting that the demand for traditional secretarial functions has diminished, maintain that technology has allowed the secretaries to take on new work in administration, research and database management that is more valuable than their previous work, particularly as the need grows to accommodate the expanded volume of work.

Changes in General Service work

57. The schedule did not permit surveys of or interviews with General Service staff directly in order to assess the impact of technology on their work. However, discussions with managers, executive officers and technology specialists in some of the largest departments make it clear that the nature of General Service work has been significantly affected by technology. General Service work, for some at least, is becoming more complex, more dynamic and more challenging, requiring more advanced technical and problem-solving skills. Newer functions, such as website maintenance, replace more traditional communication mechanisms. Organization-wide databases permit wider access and an ability to initiate, or in some cases approve, more actions in the system. Some jobs have become more "paraprofessional" in nature, encompassing some of the lower-level functions of professional jobs. Technology leveraged properly permits less division of labour and fewer levels of hierarchy. It has made jobs more alike and blurred the distinctions between some of the job specialities.

Implications

58. The ability of the Organization to leverage technology will grow as processes are re-engineered, current systems are improved and enhanced and new systems are introduced. Job assignments and job content will change and evolve and staffing requirements will fluctuate and adapt to the technology. What may be an appropriate balance one year may not be the next. Today's conventional wisdom about staff ratios may be obsolete tomorrow.

59. As an example, transaction-oriented functions such as the processing of entitlements have relatively high General Service-to-Professional ratios. Simplified and streamlined processes may reduce the need for staff engaged in routine processing, which could in turn reduce the need for Professional supervisors. The ratio would change little in this case. But newer applications of technology may permit increased authority for GS-6 or GS-7 Human Resources Assistants, again reducing the need for Professional overseers. A higher General Service-to-Professional ratio might again be appropriate. An optimum number of staff in substantive functions could prove equally dynamic. Technology could continue to increase the contribution of paraprofessional General Service staff, reducing the need for lower-level staff in both the Professional and General Service ranks. The lesson is simply that technology drives business processes and the processes drive staffing. Rigid adherence to any staffing formulas would be counterproductive.

Personnel practices

60. A clear implication of the impact of technology on General Service jobs is the need to ensure that job titles and job descriptions match the realities of the work. Good staffing decisions require good information about job content and the extent to which technology has actually changed the work itself as opposed to merely changing the tools and processes. The United Nations has already developed generic job profiles that reflect the increased role of technology. The next step is to match the profiles to current staff in order to have an accurate inventory of jobs and job categories.

61. The process of matching staff with new job descriptions should also shed light on two issues related to job categories and job classification. One is whether technology has reduced the distinctions between General Service grade levels to the point that there should be fewer grade levels (i.e., broadbanding). Another common and somewhat controversial suggestion is that technology has blurred the line between General Service and Professional work so that categorical distinctions are no longer relevant. It is useful to recall the definition of professional work as set out by ICSC in its Common Classification of Occupational Groups: "Professional work is analytical, evaluative, conceptual, interpretative and/or creative and thus requires the application of the basic principles of an organized body of theoretical knowledge, such as a field of science, learning or specialized discipline." The question is less about nomenclature and more about job content and qualifications.

G. Conclusions and recommendations

62. **Comparisons with other organizations are inherently problematic. It is hard to ensure comparability and relevance and, in the end, the comparisons show where the organization is, but not necessarily where it should be. The comparisons of United Nations staff ratios with those of other organizations, however interesting, are not conclusive as to whether United Nations ratios are too high. First, there is no standard or benchmark for what is too high and, more importantly, it may be faulty to assume that a high ratio of support staff to professional staff is necessarily a bad thing. Some organizations might view a high General Service-to-Professional ratio as effective staffing that gets a higher proportion of the work done by lower-paid staff.**

63. **The internal comparisons show that nearly all departments have reduced their General Service-to-Professional ratios. While this appears on the surface to be a positive development, a much deeper analysis by function and job category would be needed to know how this was achieved, what the impact was on programmes and products and how the reductions in support staff have affected the work and workloads of professional staff.**

64. **As in other organizations, the full benefits of technology have yet to be realized at the Secretariat. Still, from a qualitative standpoint, services have improved, response times are faster, products are better and information is more accessible internally and externally. Quantitatively, there have been reductions and redeployment of support staff while mandates and programmes have increased. It is reasonable to assume that technology is at least one factor in being able to handle more work with fewer staff, but again analysis would be required to determine what other factors have had an impact.**

65. **Priorities for technology investments should be defined regarding improved services and faster response times, improvement and expansion of products, redeployment of staff or reductions in staff. All may be desirable, but perhaps not simultaneously. They need to be pursued in a rational order and in a way that maximizes resources, minimizes disruptions and maintains morale.**

66. **It is tempting to seek standards and formulas to set staffing levels, but even if applicable standards could be found, they would soon become obsolete because of the dynamic nature of work, jobs, structures and programmes. The General Service-to-Professional ratio is particularly difficult to apply because each function would require a different standard that could fluctuate with the impact of technology on the distribution of responsibilities and authorities. It would not be advisable therefore to set rigid organizational standards or benchmarks for staffing ratios. The goal of the organization should be optimal staffing to meet the tasks assigned to it, irrespective of any notions about ratios and proportions.**

67. **Job descriptions and job titles will be updated to reflect the realities of General Service work and to conform to the generic job profiles. Emphasis will continue to be placed on ensuring that mechanisms are in place to increase the versatility and mobility of staff in order to adapt quickly to changes in missions, programmes and functions.**

68. **Attention will be paid to engaging a more active and regular exchange of best practices and performance metrics with other United Nations organizations, non-United Nations organizations and professional associations for specific occupational categories. It is noted that CEB already collects some best practices information, and there may be an appropriate role for ICSC in collecting data from non-United Nations organizations, professional associations or private firms that conduct international surveys.**

69. **The General Assembly may wish to take note of the present report.**

Notes

[1] Abbreviations used in the tables:

ADB	Asian Development Bank
CEB	United Nations System Chief Executives Board for Coordination
DDA	Department for Disarmament Affairs
DESA	Department of Economic and Social Affairs
DGACM	Department for General Assembly and Conference Management
DM	Department of Management
DPA	Department of Political Affairs
DPI	Department of Public Information
DPKO	Department of Peacekeeping Operations
ECA	Economic Commission for Africa
ECE	Economic Commission for Europe
ECLAC	Economic Commission for Latin America and the Caribbean
EOSG	Executive Office of the Secretary-General
ESCAP	Economic and Social Commission for Asia and the Pacific
ESCWA	Economic and Social Commission for Western Asia
FAO	Food and Agriculture Organization of the United Nations
IAEA	International Atomic Energy Agency
ICJ	International Court of Justice

ICSC	International Civil Service Commission
ILO	International Labour Organization
IMIS	Integrated Management Information System
ITSD	Information Technology Services Division
OCHA	Office for the Coordination of Humanitarian Affairs
OCSS	Office of Central Support Services
OHRM	Office of Human Resources Management
OIOS	Office of Internal Oversight Services
OLA	Office of Legal Affairs
OPPBA	Office of Programme Planning, Budget and Accounts
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNHCR	Office of the United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
WFP	World Food Programme
WHO	World Health Organization

"Information Technology and Productivity: A Review of the Literature", Eric Brynjolfsson and Shinkyu Yang, Massachusetts Institute of Technology, Sloan School of Management, Cambridge, Massachusetts; published in *Advances in Computers*, Academic Press, vol. 43, pp. 179-214, 1996.

Annex

Functional categories for General Service staff[a]

Secretarial and executive support (direct clerical/administrative assistance to a manager or group of professionals)

Secretary
Staff Assistant
Personal Assistant
Team Assistant
Clerk-Typist

General administration and office support

Administrative Assistant
Management Analysis Support
Procurement Assistant
Office Assistant
General Services Clerk/Assistant
Mail Assistant
Messenger
Travel Assistant (transportation, driving, traffic, visa)
Inventory and Supply Assistant

Financial management

Accounts Assistant
Audit Assistant
Budget Assistant
Finance Assistant
Treasury Assistant

Programme management

Programme Assistant
Economic Assistant
Social Science Assistant
Economics Assistant
Research Assistant
Statistical Assistant
Operations and Logistics Assistant

Information, media and public relations

Public Information Assistant
Library and Reference Assistant
Liaison and Protocol Assistant
Sales and Marketing Assistant

[a] Job titles included in each grouping are representative and may not include all applicable titles. These categories are used for the present analysis only and may not be official categories of the United Nations.

Archives and Records Assistant
Registry Assistant

Conference and meetings services

Meetings Services Assistant

Audio-visual and graphic arts

Audio-visual Engineer/Technician
Cartographic Assistant
Film and Photography Operation
Graphic Artist
Print Technician

Information and communication technology

Information Systems Assistant
Information Technology Assistant
Information Management Assistant
Help Desk

Language and document services

Language Reference Assistant
Editorial and Desktop Publishing Assistant
Documents Assistant
Proofreader
Layout Technician
Conference Typist/Text-processing Assistant

Specialized functions

Legal Assistant
Medical services (Lab Technician, Nurse)

Trades and Crafts

HVAC Technician
Mechanic
Plumber
Carpenter
Electrician
Painter
Locksmith

Security and Safety

Security Captain
Security Desk Officer
Security Sergeant
Security Guard
Security Lieutenant